

L Number	Hits	Search Text	DB	Time stamp
4	5	09/360292	USPAT; US-PGPUB	2004/03/03 08:18
5	184313	((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric))	USPAT; US-PGPUB	2004/03/03 08:32
6	8052	((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))	USPAT; US-PGPUB	2004/03/03 10:47
7	2415	(((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)	USPAT; US-PGPUB	2004/03/03 10:49
8	556	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with hydrogen)	USPAT; US-PGPUB	2004/03/03 08:29
9	561	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with (hydrogen 'h2'))	USPAT; US-PGPUB	2004/03/03 10:50
10	135	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with (hydrogen 'h2')) and (plasma with (chlorine 'cl'))	USPAT; US-PGPUB	2004/03/03 08:30
11	137	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with (hydrogen 'h2')) and (plasma with (chlorine 'cl'))	USPAT; US-PGPUB	2004/03/03 10:50
12	137	((((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with (hydrogen 'h2')))) and (plasma with (chlorine 'cl')) and (trench groove hole via opening recess damascene etch\$3 insulat\$ dielectric etching hydrogen chlorine plasma substrate silicon)	USPAT; US-PGPUB	2004/03/03 12:16
13	19	((((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with (hydrogen 'h2')))) and (plasma with (chlorine 'cl')) and (trench groove hole via opening recess damascene etch\$3 insulat\$ dielectric etching hydrogen chlorine plasma substrate silicon)) and ((trench groove hole via opening recess damascene) with (silicide refractory))	USPAT; US-PGPUB	2004/03/03 12:16
14	1	10/039517	USPAT; US-PGPUB	2004/03/03 09:14
15	2057	((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((clean\$3 remov\$4) near4 plasma))	USPAT; US-PGPUB	2004/03/03 10:49
16	2616	((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((clean\$3 remov\$4 treat\$2 treatment) near4 plasma))	USPAT; US-PGPUB	2004/03/03 10:49
17	932	(((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((clean\$3 remov\$4 treat\$2 treatment) near4 plasma))) and (gas near4 plasma)	USPAT; US-PGPUB	2004/03/03 10:49
18	330	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((clean\$3 remov\$4 treat\$2 treatment) near4 plasma))) and (gas near4 plasma)) and (plasma with (hydrogen 'h2'))	USPAT; US-PGPUB	2004/03/03 10:50
19	80	((((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((clean\$3 remov\$4 treat\$2 treatment) near4 plasma))) and (gas near4 plasma)) and (plasma with (hydrogen 'h2')))) and (plasma with (chlorine 'cl' 'cl.sub.2')))	USPAT; US-PGPUB	2004/03/03 12:11

21	8	(((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((clean\$3 remov\$4 treat\$2 treatment) near4 plasma))) and (gas near4 plasma)) and (plasma with (hydrogen 'h2'))) and (plasma with (chlorine 'cl' 'cl.sub.2')))) and (trench groove hole via opening recess damascene etch\$3 insulat\$ dielectric etching hydrogen chlorine plasma substrate silicon)) and ((trench groove hole via opening recess damascene) with (silicide refractory))	USPAT; US-PGPUB	2004/03/03 12:17
20	80	(((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((clean\$3 remov\$4 treat\$2 treatment) near4 plasma))) and (gas near4 plasma)) and (plasma with (hydrogen 'h2'))) and (plasma with (chlorine 'cl' 'cl.sub.2')))) and (trench groove hole via opening recess damascene etch\$3 insulat\$ dielectric etching hydrogen chlorine plasma substrate silicon))	USPAT; US-PGPUB	2004/03/03 13:31

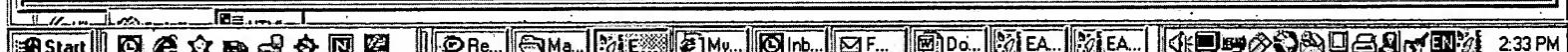
L Number	Hits	Search Text	DB	Time stamp
4	5	09/360292	USPAT; US-PGPUB	2004/03/03 08:18
5	184313	((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric))	USPAT; US-PGPUB	2004/03/03 08:32
6	8052	((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))	USPAT; US-PGPUB	2004/03/03 08:27
7	2415	(((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)	USPAT; US-PGPUB	2004/03/03 08:28
8	556	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with hydrogen)	USPAT; US-PGPUB	2004/03/03 08:29
9	561	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with hydrogen 'h2'))	USPAT; US-PGPUB	2004/03/03 08:30
10	135	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with hydrogen 'h2')) and (plasma with (chlorine 'cl'))	USPAT; US-PGPUB	2004/03/03 08:30
11	137	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with hydrogen 'h2')) and (plasma with (chlorine 'cl'))	USPAT; US-PGPUB	2004/03/03 08:30
12	137	((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with hydrogen 'h2')) and (plasma with (chlorine 'cl')) and ((trench groove hole via opening recess damascene etch\$3 insulat\$ dielectric etching hydrogen chlorine plasma substrate silicon))	USPAT; US-PGPUB	2004/03/03 08:31
13	19	((((((trench groove hole via opening recess damascene) with (etch\$3 insulat\$ dielectric)) and ((trench groove hole via opening recess damascene) with ((etch\$3 clean\$3 remov\$4) near4 plasma))) and (gas near4 plasma)) and (plasma with hydrogen 'h2')) and (plasma with (chlorine 'cl')) and ((trench groove hole via opening recess damascene etch\$3 insulat\$ dielectric etching hydrogen chlorine plasma substrate silicon)) and ((trench groove hole via opening recess damascene) with (silicide refractory)))	USPAT; US-PGPUB	2004/03/03 09:14
14	1	10/039517	USPAT; US-PGPUB	2004/03/03 09:14

L13: (19) 12 and ((trench groove hole via opening recess))
 L14: (1) 10/039517
 L15: (2057) 5 and ((trench groove hole via opening recess))
 L16: (2616) 5 and ((trench groove hole via opening recess))
 L17: (932) 16 and (gas near4 plasma)
 L18: (330) 17 and (plasma with (hydrogen 'h2'))
 L19: (80) 18 and (plasma with (chlorine 'cl' 'cl.sub.2'))
 L21: (8) 20 and ((trench groove hole via opening recess))
 L20: (80) 19 and (trench groove hole via opening recess)
 L22: (8232) 5 and (plasma with (clean\$2 cleaning treat\$2))
 L23: (1378) 22 and (plasma near5 hydrogen)

Plurals
 Default operator: Highlight all hit terms initially

 26 and ((trench groove hole via opening recess damascene) with (silicide refractory))

	U	I	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
1	<input type="checkbox"/>	<input type="checkbox"/>	US 20030236003 A1	20031225	32	Method of forming barrier layer of semiconductor device	438/795	438/533; 438/653;
2	<input type="checkbox"/>	<input type="checkbox"/>	US 20030015496 A1	20030123	9	PLASMA ETCHING PROCESS	216/67	
3	<input type="checkbox"/>	<input type="checkbox"/>	US 20020040886 A1	20020411	9	Chemical vapor deposition process of depositing a material over a semiconductor	216/2	216/37; 216/67
4	<input type="checkbox"/>	<input type="checkbox"/>	US 20020040885 A1	20020411	9	Plasma etching process and semiconductor plasma etching process	216/2	216/67
5	<input type="checkbox"/>	<input type="checkbox"/>	US 6511575 B1	20030128	46	Treatment apparatus and method utilizing negative hydrogen ion		204/298.34; 204/298.36
6	<input type="checkbox"/>	<input type="checkbox"/>	US 6335282 B1	20020101	8	Method of forming a titanium comprising layer and method of forming	438/682	257/E21.165; 257/E21.168;
7	<input type="checkbox"/>	<input type="checkbox"/>	US 6001736 A	19991214	26	Method of manufacturing semiconductor device and an apparatus	438/677	118/718; 118/723MP;



- L13: (19) 12 and ((trench groove hole via opening recess
- L14: (1) 10/039517
- L15: (2057) 5 and ((trench groove hole via opening recess
- L16: (2616) 5 and ((trench groove hole via opening recess
- L17: (932) 16 and (gas near4 plasma)
- L18: (330) 17 and (plasma with (hydrogen 'h2'))
- L19: (80) 18 and (plasma with (chlorine 'cl' 'cl.sub.2'))
- L21: (8) 20 and ((trench groove hole via opening recess
- L20: (80) 19 and (trench groove hole via opening recess
- L22: (8232) 5 and (plasma with (clean\$2 cleaning treat\$2
- L23: (1378) 22 and (plasma near5 hydrogen)

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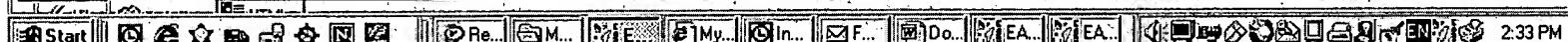
DBs USPAT-US-PPUB Plurals

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12 and ((trench groove hole via opening recess damascene) with (silicide refractory))

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	U	I	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
1	<input type="checkbox"/>	<input type="checkbox"/>	US 20030236003 A1	20031225	32	Method of forming barrier layer of semiconductor device	438/795	438/533; 438/653;
2	<input type="checkbox"/>	<input type="checkbox"/>	US 20030015496 A1	20030123	9	PLASMA ETCHING PROCESS	216/67	
3	<input type="checkbox"/>	<input type="checkbox"/>	US 20030013313 A1	20030116	23	Process for fabricating semiconductor device	438/706	257/E21.252; 438/689;
4	<input type="checkbox"/>	<input type="checkbox"/>	US 20020040886 A1	20020411	9	Chemical vapor deposition process of depositing a material over a semiconductor device	216/2	216/37; 216/67
5	<input type="checkbox"/>	<input type="checkbox"/>	US 20020040885 A1	20020411	9	Plasma etching process and semiconductor plasma etching process	216/2	216/67
6	<input type="checkbox"/>	<input type="checkbox"/>	US 20010012694 A1	20010809	13	Plasma etching method using low ionization potential gas	438/689	
7	<input type="checkbox"/>	<input type="checkbox"/>	US 20010006245 A1	20010705	130	Manufacturing method of semiconductor integrated circuit device	257/513	
8	<input type="checkbox"/>	<input type="checkbox"/>	US 6645870 B2	20031111	21	Process for fabricating semiconductor device	438/710	257/E21.252; 438/700;
9	<input type="checkbox"/>	<input type="checkbox"/>	US 6607988 B2	20030819	123	Manufacturing method of	438/720	438/3



- ☒ L13: (19) 12 and ((trench groove hole via opening recess))
- ☒ L14: (1) 10/039517
- ☒ L15: (2057) 5 and ((trench groove hole via opening recess))
- ☒ L16: (2616) 5 and ((trench groove hole via opening recess))
- ☒ L17: (932) 16 and (gas near4 plasma)
- ☒ L18: (330) 17 and (plasma with (hydrogen 'h2'))
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- ☒ L23: (1378) 22 and (plasma near5 hydrogen)

Search	List	Browse	Queue	Clear
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12 and ((trench groove hole via opening recess damascene)
with (silicide refractory))

	U	1	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
11	<input type="checkbox"/>	<input type="checkbox"/>	US 6524963 B1	20030225	9	Method to improve etching of organic-based, low dielectric constant	438/714	134/1.2; 216/67;
12	<input type="checkbox"/>	<input type="checkbox"/>	US 6518113 B1	20030211	17	Doping of thin amorphous silicon work function control layers of MOS	438/217	257/E21.637; 438/291;
13	<input type="checkbox"/>	<input type="checkbox"/>	US 6475920 B2	20021105	12	Plasma etching method using low ionization potential gas	438/714	438/723; 438/740;
14	<input type="checkbox"/>	<input type="checkbox"/>	US 6228775 B1	20010508	13	Plasma etching method using low ionization potential gas	438/714	216/67; 216/79;
15	<input type="checkbox"/>	<input type="checkbox"/>	US 6025273 A	20000215	8	Method for etching reliable small contact holes with improved profiles	438/706	257/E21.257; 257/E21.577;
16	<input type="checkbox"/>	<input type="checkbox"/>	US 6001736 A	19991214	26	Method of manufacturing semiconductor device and an apparatus	438/677	118/718; 118/723MP;
17	<input type="checkbox"/>	<input type="checkbox"/>	US 5405491 A	19950411	7	Plasma etching process	438/710	156/345.51; 438/714;
18	<input type="checkbox"/>	<input type="checkbox"/>	US 4702795 A	19871027	7	Trench etch process	438/695	204/192.32; 257/301;
19	<input type="checkbox"/>	<input type="checkbox"/>	US 4690729 A	19870901	12	Tapered trench process	438/695	148/DIG.50;